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Towards an Understanding of Rich Picture Interpretation

Simon Bell¹ · Tessa Berg²  · Steve Morse³

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Abstract

This paper considers the value of the Rich Picture (RP) as a means to capture data from multiple groups exploring a question, problem or issue. RPs emerge from group work by unravelling and integrating understandings, but to date there have been no attempts to consider ways in which the RPs from different groups analysing the same question can be, or indeed should be, objectively compared. The aim of this paper is to investigate the maximum learning potential from the RP, and we develop and use a form of Content Analysis (CA) called Educative Interpretation (EI) specifically for RPs. The paper illustrates the process of EI by drawing upon a series of RPs created by groups in the Lebanon. The groups were all working on issues involved in coastal zone management, and the resulting analysis presents some of the insights that were gained. The paper finally discusses some of the advantages and disadvantages of EI applied to RPs.

Keywords Rich picture · Community OR · Content analysis · Problem structuring

Introduction

The Systems Science and Operations Research (OR) literature is replete with examples of innovation in data gathering (please see Campbell-Hunt 2008; Langsdale et al. 2009 for two examples) and visualisation – such as that used in diagramming – as powerful means to capture group thinking (Pfeiffer et al. 2008; Salter et al. 2009). However, the interpretation of visual methods remains problematic and this comes into sharp relief when a number of groups are

✉ Tessa Berg
t.berg@hw.ac.uk

¹ Faculty of Science, Technology, Engineering & Mathematics, School of Engineering & Innovation, The Open University, Walton Hall, Milton Keynes MK7 6AA, UK

² Department of Computer Science, Earl Mountbatten Building, HeriotWatt University, Riccarton campus, Edinburgh EH4 4AS, UK

³ The Centre for Environment and Sustainability, University of Surrey, Guildford, Surrey GU2 7XH, UK

exploring the same question. Rich pictures (RPs) were developed as part of Peter Checkland's Soft System Methodology (SSM) as a means to gather information about a complex situation (Checkland 1981). The RP in SSM is a tool used for analysis of a systemic mess or complex situation and provides a space by which participants can negotiate a shared understanding of a context, and part of this, of course, involves them sharing their perspectives and learning from that experience.

RPs have been widely used for many years and applied to a range of projects (Callo and Packham 1997; Haynes 1989; Mingers 2001; Probert 1998; Stamper and Kolkman 1990; Winter and Checkland 2003). They are also used in information systems planning and development (Avison and Fitzgerald 2006). But, beyond the information and systems domains, and detached from SSM, RPs have been put to use in a variety of fora; from nursing (Ballard 2007), social care (Fougner and Habib 2008), the construction industry (Mazijoglou and Scrivener 1998), creativity (Proctor 1995) landscape visualisation (Boedhihartono 2012) and engineering (Sutrisna and Barrett 2007) to name just a few. In all cases, the RP is applied as a robust means to address contexts of complexity and multiple-interpretation of contentious issues.

The RP is generally agreed to work best within the context of a small group (2 to 6 people) that encourages creative problem identification through visual understanding of complex socio-technical systems (Bronte-Stewart 1999). Indeed, Bell et al. (2016, p13) note that "*RP's have had their widest and most successful application in the field of participatory and community work*". As commonly practiced and as originally intended in SSM, RPs tend to be the 'front end' of problem structuring methods and they have, to date, been seen as an early enquiry tool in system design and their real usefulness expires after the completion of this phase (Checkland and Poulter 2006). RPs are known to be highly versatile and hence applicable and useful in a wide variety of contexts (for example see: Sutrisna and Barrett 2007; Bell and Morse 2013) but they are difficult to interpret in the sense of third parties being able to 'read' and draw meaning from (see for example: Carrizosa 2002; Bell and Morse 2012) and this is a conundrum which we will explore within the paper. In terms of data capture from a group, the RP has the advantage of having few formal rules and is usually a physical picture drawn by a variety of hands to encourage community discussion and debate. But, how might RPs be interpreted for meaning? This is especially relevant in a comparative sense. For example, in a participatory workshop that might comprise a number of small groups drawn from a community but asked to explore the same question it is highly likely that the analyses they arrive at will also be very different. Some groups may well agree on the importance of a number of key issues, but it is also likely that there will be differences in perspective. We argue that the multiple perspectives contained in RPs produced by a number of groups all exploring the same question provide an opportunity for deeper analysis. This begins with an analysis of similarities and differences but can then go much deeper as we ask questions about why it is that these may exist? Can we regard points of similarity in RP content across groups as reflecting a deeper sense that these are the points that are really core or can they simply be reflecting a given and oft-articulated agenda set by politicians etc.? Apparent differences in RP content may perhaps be a function of factors such as group composition (different skills, jobs, genders, ages, experiences etc.) but they may also reflect differences in group function, but it could also be that these apparent differences are divergent ways of looking at the same underlying issue and thus offer a degree of triangulation. But how can we understand the pictures and interpret, correctly, the visual metaphors? The analysis of RPs across groups has been little discussed in the academic literature to date, probably because the outcomes of a RP

exercise remain qualitative, subjective and contested. Meaning derived from pictures is disputable and ‘truth’ is hard to confirm. The culture of those stakeholders involved in the drawing process might be different from the culture of the facilitator or evaluating analyst. Probably for these reasons there has been little attempt to address RP interpretation in terms of actual and inferred meaning of the RP itself. There is a lack of universal standards and a gap in our capacity to generalise from art interpretation methods (Berg 2013).

In what follows we set out an approach which we think will help with an analysis of RPs. Such analysis will benefit both the researcher and group offering insight into concerns, issues, secrets, visual meanings and individual stories. We fully acknowledge and respect the origin and role of the RP within its SSM context, and it should be noted that analysis of RPs is not intended to impinge upon or disrupt the use of RPs within an SSM or indeed any participatory process. Instead we make the case that the Content analysis (CA) of RPs can be undertaken outside of that problem-solving context to provide useful insights into the results of the analysis completed by the individuals/groups. Here we illustrate how the RP can provide the material for a CA to explore common themes and issues as well as differences which emerge between groups (or individuals) asked to analyse the same topic. We argue that the messages, stories and emotions within the RP can be drawn out, or *educated*, by making use of an approach we call Educative Interpretation (EI) which is a form of CA that provides a refined, systematic (sequential and methodological) and systemic (inclusive) way of analysing RPs – assisting groups in reflecting on and looking specifically at their RPs in terms of differences. In order to do this, the paper will draw upon a series of RPs produced during a workshop undertaken in the Lebanon on a coastal zone management project. We chose this case study as it represents a complex system for RP to address especially in a challenging country context.

Lebanon Case Study

Our entry point for the research reported here is taken from a series of interventions in the Lebanon (PlanBleu and Bell S 2002a, b; PlanBleu and Bell S 2003a, b). Lebanon is a country with a complex and difficult past and indeed present.

The history of the Lebanon, a country of just over 4 million people at the time of writing, cannot be divorced from the chronic issues of empire and conquest stretching back before British and French imperialism and taking in the sweep of the Ottomans and more local Arabic and Phoenician influences. Hence the historical context is long and complex and cannot be the subject of this paper. Although the situation in the country is often portrayed as dangerously conflictual, there is also a significant degree of consensus which often remains understated (Azar 2002). Its geographical location on the shore of the Mediterranean provides opportunities for tourism but also raises challenges faced by many of the other countries that also have a coastline on that sea, including intensive development and pollution arising from urbanisation and industrialisation. But the Lebanon also has borders with Israel and Syria, and this has brought other sources of turbulence that echo down to this day. The case we develop is based upon a project which was focused on the Lebanon during a comparatively peaceful period (2002 to 2003). The project was part of a Coastal Area Management Programme (or CAMP) undertaken by the French environmental agency Plan Bleu throughout the Mediterranean. CAMP was oriented at understanding and resolving practical environmental, development and management problems at local and national levels in Mediterranean coastal areas. At the time of the CAMP project in the early 2000s the need for an improved coastal area management



Fig. 2 Lebanese Rich Picture 2

within the RP can be drawn out, or *educed*, by making use of an approach we call Educative Interpretation (EI). EI is a form of Content Analysis (CA) that provides a refined, systematic (sequential and methodological) and systemic (inclusive) way of analysing RPs – assisting

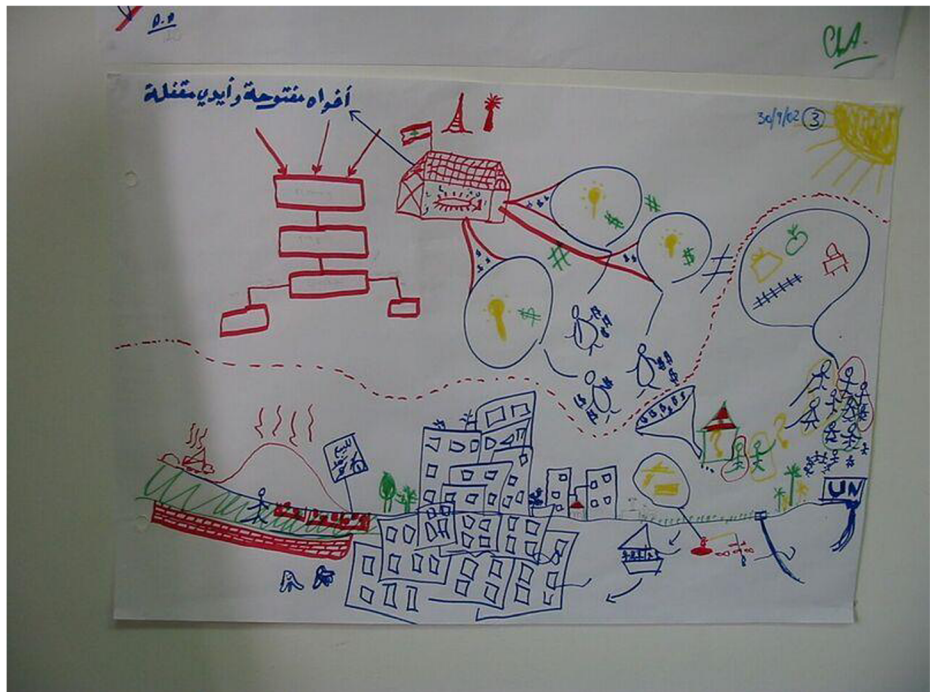


Fig. 3 Lebanese Rich Picture 3



Fig. 4 Lebanese Rich Picture 4

groups in reflecting on and looking specifically at their RPs in terms of differences, similarities and relationships.

CA is a widely recognised qualitative assessment tool primarily used in the social sciences and humanities. CA is used to identify patterns and relationships within a variety of materials such as interview transcripts, video, audio and pictures. In essence, CA looks for patterns and themes that can be clustered to make sense of complex, and often bulky/messy data. EI as suggested here is, in effect, a form of *Content Analysis for visualisation*. Thus EI, when applied to RPs, provides groups with a “deep-dive” exploration of the many visual metaphors held within a picture.

The aim is not to judge the RPs and we are not trying to apply authority as expert evaluators nor do we assert this evaluation should be part of a process such as SSM. Hence, we are not suggesting that the CA be done by workshop participants or indeed by facilitators during the workshop. In a conventional CA the pictures and related workshop discussions would be scanned for meaningful content which is of comparative interest both in the comparison of various artefacts (in this case RPs) and in terms of the rigours of the context under scrutiny (in this case the coastal area of Lebanon. Tables 1, 2, 3 and 4 provide different ‘takes’ on the RPs (Figs. 1, 2, 3 and 4) of the Lebanon groups. Each of Tables 1, 2, 3 and 4 contains three discrete elements of information:

- Column 1: This contains the deduced key themes evident across all four RPs. These key themes emerged from a segmental analysis of each RP as shown in Fig. 5. Each RP was divided into nine segments and each segment was analysed individually for content. This resulted in a sequence of deduced themes as seen in column 1 of Tables 1, 2, 3 and 4.

Table 1 Analysis of Rich Picture 1

EI themes	CA RP1	Stakeholder EI RP1
Stakeholder style	23+ basic stick figures, 2 full figures(B2,B3)	We are fighting against time ('chasing windmills' like Don Quixote) – empty dreams.
Facial expression/body language	One clear face (B1) depicting a person of power (cigar and dress). Body language of man on Horse (B2)looking behind/being reflective	<p>There is no development in the fields of agriculture and fishery – no technological advances.</p> <p>Elections are about empty promises and local committees are papers on shelves [Dis].</p> <p>Many have dreams and hopes but the door is often closed unless they use 'wasta', i.e. personal connections with powerful persons or groups [Dis].</p> <p>Brain drain and emigration without return due to high unemployment rates [Em].</p> <p>Some people, like the CAMP team, are hopeful and attempt to make changes but are shocked with the amount of existing damage in urban plans.</p> <p>The team's main role is to be 'the ears of the community' and to link resources (expertise, information, and funds) to deal with community challenges.</p> <p>Many people are entrepreneurs but individualistic – it is time to join forces so that we can speak as 'we' instead of 'I'.</p> <p>We talk about development but what is development?</p> <p>There are not enough laws and those that exist are not implemented nor developed [Reg].</p> <p>Cultural heritage exists but it is used for hanging laundry, putting them on postcards, and the occasional tour guides - no planning, rehabilitation nor development.</p>
Dominant stakeholders	6 instances: B2, B1 x2,B3,A2,C2	
Stakeholder interaction (groups, communication)	2 large Groups. One depicting meeting (B3).	
Background Space	Majority of space used up in picturing process	
Dominant icons	B1 (large buildings), B2 (man/horse),B1 (interaction with the law),B3 (items being hung out to dry)	
Interesting metaphor	Man unable to access meeting room (C3),items hung out to dry (B3), legal issues (A2)	
Isolation	C2 (visuals in yellow circle border not recognisable)	
Speech	All areas except B2	
Orientation/reading style	No rotation required. Separate story lines across many areas.	
Specific Icons: Weather	N/A	
Specific Icons: smoking cigarette/cigar	1 instance (B2)	
Specific Icons: money	1 instance of \$ (A1)	
Specific Icons: psychopathic	N/A	
Stakeholder plenary reflections	This picture is an archive, the "story of the project to date" with the possibility of coming up with new ideas throughout the CAMP process. There is less emphasis on environmental challenges but what is positive is the focus on local participation and the importance of teamwork. What is also unique is that there is a piece of every person in that group in the picture.	
Unique Signatory of the RP	The RP depicts a colourful yet disorderly visual story of complex situations. There seems to be numerous, possibly unrelated, communication issues which dominant stakeholders are controlling. Problems drawn in visuals appear less negative than those listed in the EI. The stakeholder EI does provide very strong confirmation of the need for change alongside vast evidence of inadequate current practices. Sense of disconnection is apparent alongside emigration issues and potential poor governance. The plenary reflection presents a positive outlook for the future placing emphasis on communication, teamwork and the importance of listening to the whole community.	

- Column 2: This contains the evidential assessment of each RP in terms of the EI Themes.
- Column 3: This contains the educed observations of stakeholders in the workshop. Within column 3 there is a secondary element of traditional CA analysis on the stakeholder observations. This is a colour coding analysis of topics that emerge across the RPs. As the reader will see in the far-right hand side column of these tables we have the voices (direct quotations as noted by the facilitator) of those who created the RPs. Here they set out what they believe are the main elements of their creations; the key issues and observations of coastal zone sustainability in the Lebanon at that time. We cannot, of course, say whether these issues are still in existence at the time of writing this paper, but these RPs are the stories represented within the RPs in the words of their creators. We have added a bracketed descriptor after the highlighted quote (e.g. Con, Dis, Em, Reg). The criteria

Table 2 Analysis of Rich Picture 2

EI themes*	RP2	Stakeholder EI RP2
Stakeholder style	38 basic stick figures, 1 full figure (A2),	– Waste disposals next to the sea.
Facial expression/body language	3 unhappy facial expressions (A2,B2 C2). Unhappy sea creatures (C3). Sound/noise issue (B2)	– People pay taxes but municipality funds are denied to and stolen from villages by the central government[Reg].
Dominant stakeholders	3 instances (A2 ,B2)	– Forests are burnt, some naturally but most are destroyed from sand and stone quarries.
Stakeholder interaction (groups, communication)	Central stakeholders interacting with a variety of core issues(B2), line of figures going to and from tax office (A2), stick figures on bottom of laddered triangle (B1)	– Industries are major polluters.
Background Space	Left side of page less busy	– Houses on the beach deny access to the sea.
Dominant icons	Central stakeholders (B2), hospital waste (C1),tax person holding money and stepping on stakeholders (A2),polluted factory pouring waste into river(B3),boot and guns (B1),Stop signs radiating from centre (B2).	– Dead fish from industrial pollutants and sewage
Interesting metaphor	Stakeholder noise /sound issues (C2),hierarchy issues (B1)	– Sewage is released in the sea and people swim there.
Isolation	N/A	– Noise pollution from haphazard industrial and small business permits among homes.
Speech	N/A (only visuals used)	– Hospitals throw hazardous waste in regular waste containers.
Orientation/reading style	No rotation required. Stories to be read from centre outwards	– The political echelon is top to bottom; all decisions are made on top[Reg].
Specific Icons: Weather	N/A	– The role of the team is to discover problems and work on awareness raising (workshops, seminars and the media) to reach solutions with local communities.
Specific Icons: smoking cigarette/cigar	1 instance (A2)	– If we are unable to improve the environmental situation, at least we need to work onstopping breaches[Reg].
Specific Icons: money	3 instances of \$(A2,B1,B2)	– The military controls national decisions – it feels like we are sitting under a ‘military boot’.[Dis]
Specific Icons: *psychopathic	Burning forest (A1),skull and crossbones (B3,C1), guns (B1)	
Stakeholder plenary reflections	Picture II describes not only what is but also what the group would like to see, i.e. emphasis on political aspirations. It touches on the issue that part of the sustainability culture mindset is democratisation. What this picture could look more closely at are positive experiences such as waste management case studies.	
Unique Signatory of the RP	This vibrant RP is centrally organised and communicates a rather negative story through a lens of comical visual icons. Some graphics tend to be emotive and severe depicting the gravity of the concern whilst others show possible solutions. The military boot is a dominant icon in the RP and a strong theme of military power in EI. The stakeholder EI presents upon a costal theme highlighting issues such as waste depositing and industry conduct. There is a strong theme of poor government and issues with regulation. The plenary reflection suggests the emphasis should be on positive experiences but it was noted that the picture did look to future expectations.	

for understanding the secondary CA elements is topic, colour, bracket and topic descriptor: Green: [Con] Control/influence of the military in Lebanon (RPs/groups 2 and 3), Yellow:[Dis] Sense of disconnection in decision making/ lack of power (RPs/groups 1,3 & 4), Blue: [Em] Emigration (RPs /groups 1&3), Pink:[Reg] Regulation/poor Government/Enforcement (ll RPs & groups)

The agreed Plenary reflection which emerged during the workshop is a culmination of the whole RP analysis. This Plenary reflection is on the penultimate row of Tables 1, 2, 3 and 4.

Table 3 Analysis of Rich Picture 3

EI themes*	RP3	Stakeholder EI RP3
Stakeholder style	41 basic stick figures (some marked as single lines(eg,B1)), 3 fuller figures (B2,C2)	<p>– Urban growth is eating up rural agricultural areas.</p> <p>National policy is controlled by the military and chaotic capitalism, which only seeks short term return[Con].</p> <p>Impact of the war reflects on the lack of monitoring[Con].</p> <p>– Awareness raising activities are useful because they directly help farmers and fishermen.</p> <p>– Emigration without return[Em].</p> <p>– Waste continues to grow – no means to reduce or recycle.</p> <p>Some people are keen on making positive changes but politicians do not care[Dis].</p> <p>– An important task of the team is to find innovative job creation as part of environmental conservation efforts.</p>
Facial expression/ body language	No facial expressions or body language. 1 happy sea creature (A3)	
Dominant stakeholders	3 instances (B2,C2)	
Stakeholder interaction (groups, communication)	Meeting of stakeholders in closed building (B1), large group with some separated by boundary (C2), group on boat going towards urban area (C3)	
Background Space	Left and top sides of page less busy	
Dominant icons	Issues regarding waste truck and waste on mountain (A2),sprawling urban housing piled on top of one another(B3), closed meeting room with picture bubbles showing light bulb and \$ signs (B1,B2)	
Interesting metaphor	N/A : Many illegible icons.	
Isolation	Single fisherman(C3), hierarchical model showing empty boxes (A1)	
Speech	2 instances (A1,B2)	
Orientation/reading style	No rotation required. Story seems to be divided (dashed line in centre of page) into 2 main areas.	
Specific Icons: Weather	Sun shining (C1)	
Specific Icons: smoking cigarette/cigar	N/A	
Specific Icons: money	19 instances of \$ (B2, C2)	
Specific Icons: *psychopathic	N/A	
Stakeholder plenary reflections	The focus in this picture is on emigration linked to lack of job opportunities and the importance of addressing job creation as part of environmental and development plans. The link described between funding and environmental policies is interesting but what is missing is the role of stakeholders and their role in natural resource management.	
Unique Signatory of the RP	This picture is very people focussed showing numerous groups in difference situations. Visuals seem to relate to finance and issues of waste. Many icons are difficult to understand and thus the stakeholder EI was more informative than the RP. The EI notes problems with dominant stakeholders; politicians & in particular the military. Emigration is also evident along with a sense of disconnection with decision making. The main theme of the plenary was the importance of work creation to resolve emigration problems.	

The emergent Unique Rich Picture Signature (URPS) appears in the final row of the Tables. The URPS is a holistic statement that takes in all the RP analysis and interpretation in one overview providing a summary that is specific to the whole RP investigation.

It should be noted that while we apportioned the RPs into 9 segments as illustrated in Fig. 5, it is entirely possible that an analyst might feel it more appropriate to divide their picture into 4, 6 or even 12 segments. In this case the division into 9 segments was deemed suitable for an in-depth examination and ideally not too condensed to make analysis overly complex. Similarly, with the highlighted coloured topics we are providing a working example of how one might use EI. In our Lebanon RPs it was appropriate and relevant to provide four coloured topics of

Table 4 Analysis of Rich Picture 4

EI themes*	RP4	Stakeholder EI RP4	
Stakeholder style	12 basic stick figures, 3 fuller figures (C1)	<p>_Parts of the beach in Naqoura are blocked by the presence of UNIFIL soldiers and their garbage – they represent the whole world but they are not the best example in hygiene.</p> <p>_ Pollution in Naqoura is not high.</p> <p>_ Naqoura municipality is victim of the Israeli occupation – no employment opportunities.</p> <p>There is a barrier between the municipality and people but there are some areas of cooperation[Dis]</p> <p>– one example is that 90% of local taxes are paid.</p> <p>Some municipalities have money but do not spend them in an efficient manner[Reg].</p> <p>_ People’s dreams or aspirations for the future are bleak.</p> <p>There is a red line between citizens and national authorities who are good at talking but do nothing[Dis].</p> <p>For every project, the politician asks, “How much will I get out of this” instead of “How will this be of benefit to society”[Dis].</p> <p>_ Foreign funds are promised to keep the lid on political issues and to render the country in a hopeless state.</p> <p>The government meets but not out of interest for the nation, just personal interests[Dis].</p> <p>Lack of co-ordination among government ministries and administrations to co-ordinate funds and work[Reg].</p>	
Facial expression/body language	No facial expressions or body language		
Dominant stakeholders	3 instances (B2 C1,C3)		
Stakeholder interaction (groups, communication)	Central stick figures (B2) but no interaction with any core theme. Two stakeholders interacting over money related matters(C1)		
Background Space	Top left of picture is blank		
Dominant icons	Central stakeholders (B2), Issues regarding waste truck and waste on mountain (A2),digger cutting into land to build housing (C2), relaxed Figure on beach (C3), Co2 emission from vehicle (B3)		
Interesting metaphor	Unknown communication (C1), relaxed figure on beach (C3)		
Isolation	Unknown communication (C1)		
Speech	6 instances (C1,C2,B2,A2,A3,B3)		
Orientation/reading style	No rotation required. Story seems to be somewhat separated in the icons at top and bottom right. Little indication of readable direction		
Specific Icons: Weather	Sun shining (C3)		
Specific Icons: smoking cigarette/cigar	1 instance (C1)		
Specific Icons: money	1 instance (C2)		
Specific Icons: *psychopathic	Possible skull and crossbones and coffins but this needs further confirmation (A3)		
Stakeholder plenary reflections	Picture IV stresses that heritage is about culture but also old houses and buildings. It also reflects the difficulty of creating relationships between people and municipalities, which requires time and a methodology. However, the team should not assume that diversity in a municipal council is negative; on the contrary, it can be exciting in working with people.		
Unique Signatory of the RP	This basic picture depicts a rather bleak scene of costal sustainability. Emigration is evident but for many icons it is difficult to determine their positive or negative viewpoint. There is weak development of themes in the RP. Stakeholder EI brings a much better understanding of the story showing dominant issues of dishonest politicians, low employment and corrupt government practice. There is a strong sense of disconnection in decision making. Plenary reflections stress heritage and the difficulty of creating relationships with community residents and government bodies especially when there are negative views of a sector.		

sustainability issues that groups examined, but this might not be the case for others studying different problem situations.

Four issues emerged from the RPs of many of the groups. The first theme (Green shading and ‘Con’) to emerge from the RPs is understandable given the influence of the military and indeed armed groups in general in the country at that time, and they were perceived to have a lot of power. This probably explains the linked issue of a sense of disconnection in decision

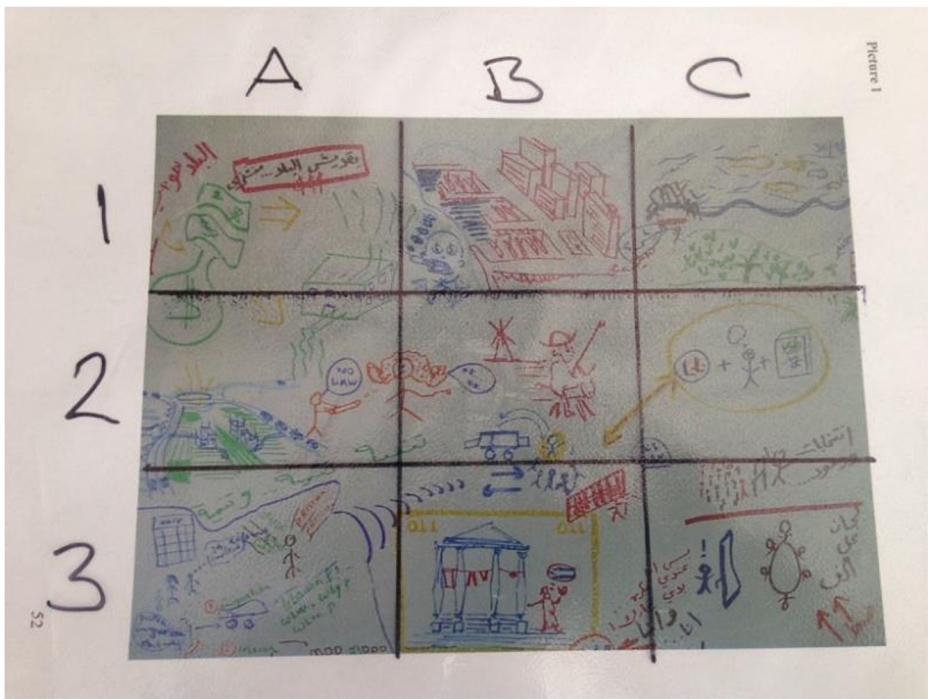


Fig. 5 Example map grid reference for undertaking an Eductive Interpretation of a Rich Picture (example RP in Fig. 1)

making and lack of power amongst those who took part in the workshop (yellow shading and 'Dis'). Military governments are not noted for sharing power. The point about emigration (blue shading and 'Em') is linked to a perceived lack of opportunity within the country and one group refers specifically to a 'brain drain' and the impacts that this has in terms of achieving sustainability in the coastal zone; a zone subject to many pressures. Finally, and perhaps most telling given that all groups mention it in various forms, is the general sense of poor governance and especially how this is reflected in poor regulation and enforcement of those regulations (Pink shading and 'Reg'). All four of these issues are clearly important and highly prevalent/apparent to those who took part in the workshop.

But while there are common issues between the RPs there are also some interesting differences between the groups. The RP of Group 1, for example, highlights the lack of technical advances in the Lebanon regarding agriculture and fisheries and is the only group to do so. The RP for Group 3 does mention farmers and fishers, but only in the sense that more communication is needed with them to raise awareness of sustainability issues. These differences are significant and would have deserved more investigation after the workshop. It is possible that they may, in part, reflect the specialisms of the group members, but it may also suggest that this lack of technical advances in agriculture and fisheries is not a major issue faced by the country. However, care does need to be taken. Just because an issue may only be raised by one group then it may not necessarily mean that it is unimportant and not worth addressing. The follow-up question here could well be why it is that the issue was only mentioned by the one group. Is it because that group can be thought to have an especial insight by way of its composition?

Would all of these points emerge if the RPs were repeated now with the same groups? It is certainly possible that some of these themes would still resonate to this day, but it is also likely that others would emerge of the themes would be expressed in different ways.

Discussion

The nature of this paper has been to set out the value of a new approach to the analysis of RPs using a form of Content analysis called 'Eductive Interpretation'. We argue that this approach is relevant in a wide variety of conventional contexts and that it has emerged in social terms as part of the dynamic which links researcher, context and resulting method. By understanding the deeper meanings emerging from the RP and the social/ group issues (often subliminal to the group and/ or obscure and/ or ignored due to a lack of understanding of their importance to group function) implicit in it, social forces in context can be better understood and addressed.

There are of course disadvantages to the EI approach. Firstly, analysis at this level can be rather complex and would take considerable time to complete. We do recognise this might be challenging for those new to CA. Within the EI approach we cannot be too prescriptive in our explanation and decisions will need to be made by the analyst on key themes of group exploration and what the naming and coding conventions will be. We provide a template (Tables 1, 2, 3 and 4) to aid analysis, but our template is geared towards a set of RPs in the sustainability domain and the identified themes might not be suitable for other domains. Secondly, there is wide scope for misinterpretation, oversight of important issues and making links and assumed connections where there are none: *apophenia*. Apophenia is a great worry for those interpreting the creative works of others. Seeing random associations of incorrect meaning can totally change the whole nature of the intended story or visual intention. Thirdly, there are certainly issues of subjectivity and bias on the part of the coder that arise from EI as they do when applying CA to any qualitative material (Krippendorff 2012).

Perhaps one approach to EI to help combat the issues surrounding apophenia, bias etc. would be to involve a group of coders and combine their individual RP analysis to create a group-agreed analysis. Group rating tools, such as the consensual assessment technique (Baer and McKool 2009), gather a panel of expert judges to rate upon creativity whereas other tools might rate richness and quality using a more individual analysis (Bell and Morse 2013). It is possible, of course, to go further and encourage the workshop participants themselves to undertake the CA – a participatory-based CA – so they can enhance their own learning from a workshop. For the most part, in this paper we have considered the CA of the RPs to be the prerogative of a researcher interested in looking for patterns etc. across individuals or groups. While this is, of course, a perfectly valid use of the CA we set out here, the involvement of participants in the CA may offer new levels of knowledge co-generation (Thorpe et al. 2011). Indeed, such an approach would perhaps be the peak of such co-generation of knowledge within participation, with each group generating its own analysis (via RPs) and participants generating their own CA of the multiple RPs produced by all groups. Identifying and answering these questions may potentially be a powerful catalyst for learning that extends the life of the interaction that they undertook. After all, projects and workshops tend to have a limited lifespan – an event horizon that once crossed has no way back. Participatory CA may help facilitate an ongoing learning that goes beyond that horizon.

In the Lebanon workshop, an EI of the RPs pointed towards four themes that the groups thought were important, and clearly these need to be considered as interventions are introduced

and discussed. But the EI took place long after the workshop and did not form part of it. The task of the workshop facilitator was to allow the groups to travel their own roads and come up with their own suggestions regarding coastal management, and it has to be stressed that is all the funder wanted. The result was four sets of collective voices with no attempt to go beyond that. Nonetheless, the subsequent EI of the RPs raises all sorts of issues, similarities and differences that certainly provide much food for thought with regard to the coastal zone. Hence, we would argue that the use of EI is a step up; an attempt to go beyond individuals or even groups in a workshop so as to understand why it is that certain issues are dominant while others are not.

Conclusion

Content analysis via Educative Interpretation upon Rich Pictures has the potential to bring together a deep visual understanding of a plethora of world views within an existing community system. Social issues can be identified using a platform of participatory workshops to identify concerns and key matters through pictorial metaphor. It is our belief that for some very complicated projects involving many stakeholders a high-level analysis upon a group of RPs drawn under the same conditions and reflecting upon the same issue can reveal more than just similarities and differences. The RP in SSM provides stakeholders with an opportunity to engage with and respond to other and alternative worldviews. If some issues are raised by many groups yet others are raised by just one group, then both should be worthy of further exploration. The EI provides further avenues to explore rather than seeking to close the door. Nevertheless, the authors recognise that there is a danger that the EI will be employed in a simplistic way to seek out issues mentioned most often as a means of focussing effort. Such a decision needs to be taken with care.

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